DOCUMENT RESUME

ED 073 392

CG 007 828

AUTHCR

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TITLE

NOTE

Classroom Management Through the Application of

Behavior Modification Techniques.

INSTITUTION PUB DATE

Remediation Associates, Inc., Linden, N.J.

70 62p.

EDRS PRICE

MF-\$0.65 HC-\$3.29

DESCRIPTORS

*Behavior Change; Behavior Development; Behavio

Patterns; *Behavior Problems; Books; *Change Age is;

Children; Classroom Environment; *Operant

Conditioning; Reinforcement; *Student Behavior;

Students; Teachers; Teaching Techniques

ABSTRACT

The primary aim of this book is to bring to the grade school teacher a survey of the most recent techniques and ideas of behavior modification which are applicable to good classroom management. All of the approaches and techniques presented could be of interest to teachers working at all grade levels. Since research has shown that the systematic application of behavior modification principles can bring about needed behavior change in educational settings, the teacher must assume the role of behavioral engineer and through the application of behavior modification techniques create a classroom atmosphere that not only leads to desired instructional outcomes but reduces the chances of a child learning inappropriate responses. Hyperactive, aggressive, negativistic, dependent, and withdrawn children are discussed as well as specialized techniques for handling these children: vicarious reinforcement, negative practice, self-monitoring behavior, behavioristic reviewing, behavioristic psychodrama, adjustment inventory, and the sociometric technique. References are included. (Author/SES)



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U.S. DEPARTMENT OF REALTH EDUCATION & WELFARE OFFICE OF EDUCATION

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CLASSROOM MANAGEMENT THROUGH THE APPLICATION OF BEHAVIOR MODIFICATION TECHNIQUES

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ACKNOWLEDGEMENTS

The author wishes to acknowledge Marcia Jacobson and Eleanor Kovalinsky for their review of this manuscript. Sincere thanks go also to Joyce Seaber, psychology major, Union College, Cranford, New Jersey, who served as a research assistant. I wish to express my appreciation to Helen Axelrod and Joanne Schlieper of the Linden, New Jersey School System for their comments on programmed reading and to Florence Weston, kindergarten teacher, Linden, New Jersey, for her ideas pertaining to classroom engineering, and to Miss Judy Cooper and Linda Krynicki, teachers of emotionally disturbed children, Linden, New Jersey who have successfully applied many of the enclosed techniques. The author also wishes to acknowledge Robert Taylor for the art work and sketches.

I would like to express my gratitude to the following individuals who were personally contacted by the author for up to date studies, techniques and approaches applicable to classroom management: Edward Dengrove, Cyril Franks, Dorothy Susskind, Ralph Blanco, Reverend George Von Hilsheimer, Kuno Beller, Martin Gettelman, Leonard Krasner, Arnold Lazarus, Raymond Ulmer, Hobart Mowrer, John Mahon, Frank Hewitt, Arthur Bijou, Arthur Patterson, S. F. Kreitzer, Charles Madsen, Eugene Fox, Helene Burgess, Ruth S. Hunt, Andrew Bowen, Stewart Proctor, Jay Rusmore, Phylis Von Vleet, and Jack Merwin.



INTRODUCTION

As school psychologists, we are called upon to evaluate and counsel a great number of culturally deprived, socially maladjusted, and emotionally disturbed youngsters. We appear as something like emergency repairmen for health workers, social workers, and educational personnel. The difficulty of such a position is not the interpreting of a child's irrational actions and behaviors, but the frustrations encountered in attempting to change or modify such behavior to a point whereby the individual is controllable within the learning situation.

In many cases the school psychologist is overburdened, and is able to see only a small percentage of children in need of his service during a school year. In addition, the parents, quite often, are uninterested or uncooperative and, consequently, counseling sessions are not fruitful and manipulation of the home environment is almost impossible.

The primary aim of this book is to bring to the grade teacher a survey of the most recent techniques and ideas of behavior modification which are applicable to good classroom management. All of the approaches and techniques presented will be of interest to teachers working at all grade levels.

The position adopted by behavior therapists is that all behavior is learned behavior and, consequently, if all behavior is learned then all behavior can be unlearned. Research has demonstrated that the systematic application of behavior modification principles can bring about behavior change in educational settings. Since learning is the result of students' interactions with their environments, what is learned is not necessarily desirable either in terms of enhancing the learners social behavior or in meeting academic goals. Consequently, the teacher must assume the role of behavioral engineer and through



the application of behavior modification techniques create a classroom atmosphere that not only leads to desired instructional outcomes but reduces the chances of a child learning inappropriate responses.

In short, teachers who are able to apply such principles to the learning situation will find the class atmosphere more conducive to learning and, in fact, will find their teaching experiences much more enjoyable and rewarding.

CLASSROOM MANAGEMENT

Generally speaking, overall classroom management requires the application of reinforcement schedules in addition to the application of positive and negative reinforcement techniques on an individual basis.

As stated previously, problem behavior children behave the way they do because they have learned to behave that way, not because they were born that way. Consequently, most behavior is learned and as such can be unlearned.

The most important technique or principle in behavior modification is that the child's positive behavior should be reinforced and negative behavior ignored unless detrimental to other members of the class.

Initially, the teacher should make explicit rules as to what is expected of the children. For example, the teacher may stress that the child raise his hand in order to answer or ask a question, the teacher may wish to emphasize remaining in one's seat, not talking, completion of tasks, etc. During the term the teacher should not attend to those behaviors which interfere with learning or teaching unless a child is being hurt by another. Punishment will inhibit a behavior if it immediately follows the behavior, but with much less force than if the teacher ignored the negative behavior and rewarded the child whenever he practiced positive behaviors. Punishment should preferably be withdrawal of some positive reinforcement. Praise and attention should be given to those behaviors which facilitate learning.

Positive reinforcement might be physical contact, such as patting, holding the child's arm, embracing the youngster. It may also be in the form of verbal praise such as "that's a fine job" or "keep up the good work,"



etc. Positive reinforcement can also be facial attention such as nodding one's head or looking at the child with a smile.

Punishment might be in the form of time out procedures, depriving a child of free time activities, and as a last resort sending a youngster to the principal's office. Time out procedures and other forms of punishment are generally necessary when a child is involved in such incidents as fighting, defying behavior, foul language, lewid gestures, etc. Group punishment for maintaining or regaining classroom control might be stop talking and waiting for silence, turning out the classroom lights and waiting for silence, etc.

Reinforcement of positive behaviors should occur within a few seconds and not longer. In attempting to work with an individual child, the teacher must initially utilize both social and non-social reinforcers. For example, when the child manifests approved or improved behavior, the teacher might give the youngster a star or a point on a chart in addition to giving the child a

friendly smile or pat on the back, etc.

The teacher must also observe the child and decide what behavior she wishes to weaken or extinguish and concomitantly find a competing behavior. For example, if the most disturbing behavior a child manifests is making weird noises, the teacher would institute a behavior modification program centered about the child not making these noises. Appropriate behavior would be reinforced, making weird noises would be ignored. Initially, the teacher will reinforce positive behavior everytime it occurs. However, as the child begins to respond and inappropriate behavior begins to diminish, the teacher should not reinforce the positive behavior everytime it occurs. This is called intermittent reinforcement. Such a schedule of reinforcement tends to maintain the improved behavior at a much higher rate and over a much longer period of time. For example, a person will bet on the horses and lose money day after day. When he is about to quit he wins again and he continues to return to the race track.

The important things for the teacher to remember in working with an individual child are:

- 1. By counting, ascertain what behavior occurs most often and what behavior is most disturbing to her.
- 2. Ascertain a behavior which is incompatible to the behavior she wishes to extinguish or weaken.
- 3. Begin by reinforcing only positive behavior and ignoring negative behavior.
- 4. Begin with small steps. For example, if a child leaves his books all over the classroom, the first behavior reinforced might be the child leaving one book near his desk and placing one book in his desk or on a designated shelf or area, etc.
- 5. Begin the reinforcement schedule utilizing both social and non-social reinforcers and reinforce the positive behavior everytime it occurs.
- 6. As the child's behavior begins to improve, move into an intermittent reinforcement schedule.
- 7. As the child's behavior improves, continue to decrease the non-social reinforcers and use only social reinforcers.

It is important that the teacher ascertain what stimulus is reinforcing the negative behavior and also which reinforcer he will use in order to bring about a modifiation in behavior.

What is reinforcing to one child may not be reinforcing to another.

SPECIAL TECHNIQUES FOR GENERAL CLASSROOM MANAGEMENT

1. The teacher might request the class to practice



two or three behaviors for a particular length of time. For example the class might be requested to sit in their seats, keep busy working, etc.

At particular intervals during this time period the teacher might ring a bell or sound a buzzer. The children manifesting any of the prescribed behaviors when the bell is sounded are rewarded a star or a point, etc., which can be exchanged for free time activities or any constructive activity which the child wishes. The number of points required for particular activities can be pre-arranged by the class.

2. Another technique might be to give each youngster permission to participate in the activity of his choice upon the completion of assigned class work. In most instances the freedom to choose one's own activity serves as an excellent reinforcer.

3. Another overall approach to good classroom

management is the following:

The teacher gives each child a 3x5 card which is placed at the upper right hand corner of his desk. Several prescribed behaviors such as raising hand to speak, staying in seat, etc., are appropriately displayed on large cards about the room. At periodic times during the day (every 15 minutes, etc.) the teacher rings a bell. The names of those children manifesting any of the prescribed behavior would be specified by the teacher calling out his or her name. The teacher then awards each child with a point, star, etc., on his 3x5 card. These points are then turned in, for selected activities. The teacher might also select her class monitors, etc., from the class by selecting those children with the most points.

4. Another very important technique is termed Planned Ignoring. Quite often the teacher might experience difficulty in extinguishing the negative behavior of a particular youngster simply because it is reinforced by his peers. The class through group discussion can be

taught to ignore such behavior. This technique is very effective especially when the teacher knows an acting out or emotionally disturbed child is being placed in a class as part of some type of special educational program.

5. The teacher might send the children home with weekly reports regarding their positive class behavior. As such only good behaviors are emphasized which reinforces not only the children's behavior but also conditions the teacher to pay attention to positive behavior and ignore negative behavior.

BEHAVIORAL PROBLEM CHILDREN

The behavioral problem child is one who cannot, or will not, adjust to the socially acceptable norms for behavior and, as a result, disrupts his own academic progress, the learning efforts of his classmates and interpersonal relations.¹

Teachers often refer to the school psychologist those children who manifest not only uncontrollable or disruptive behavior, but also the withdrawn, dependent, frightened youngster who also experiences difficulty in maintaining academic progress.

The elimination of such types of behavior may best be achieved by the training of the peer group and the parents and teachers to respond positively to socially adaptive behaviors rather than emphasize aversive behaviors. Studies using such techniques to modify the behavior of problem children appear to suggest that simply to ignore aversive behavior actually increases such behavior. Instead the teacher should utilize the combination of ignoring deviant behavior and reinforcing a compatible behavior.

In the planning of a behavior modification program, the teacher should arrange a hierarchy of child behaviors which lead to his being ignored or punished by his peer group. Once the teacher identifies the child's aversive behaviors she can then implement a behavior modification program in an attempt to retrain the child in the acquisition of new behaviors which will not be disrupting to the child, his class and overall academic progress.

Typical disruptive behaviors for which children are referred to the school psychologist might be the following:

temper tantrums withdrawal

Woody, Robert H. Behavioral Problem Children in the Schools, Appleton-Century-Crofts, 400 Park Avenue South, New York, New York.

crying
dependency
aggressiveness
throwing objects
negativism
biting
thumb sucking
kicking
screaming
hyperactivity
fear reactions

However, as previously stated, very often the teacher is unable to receive professional help for a child for a period of several months or years. Perhaps counseling and/or psychological services are not available at all. Consequently, the teacher in many circumstances is the individual who spends the greatest amount of time with a child and as a result is in a position to assume the role of behavioral engineer.

In the following pages I shall discuss those problem behaviors which I feel the teacher can either eliminate or alleviate to such a degree that the youngster will be better able to perform academically and will gain greater acceptance by his classmates due to the acquisition of new positive behaviors and/or at least elimination of negative behavior through retraining.

THE HYPERACTIVE YOUNGSTER

Hyperactivity, inattention to tasks, short concentration and attention span are all manifestations of either minimal cerebral dysfunction, emotional or behavioral disturbance and should always be referred to the school special services team for evaluation. However, how does the teacher cope with hyperactive behav-

ior if several months may lapse before the child receives professional help?

One would expect such a child to acquire social skills at a rate faster than the less active child. However, when activity is extremely high, reactions from one's peer group and teacher are likely to be punitive rather than positive. Consequently, the higher the ratio of punishment for such behavior tends to result in a slower development of social behaviors.

It is important that appropriate behaviors in hyperactive children be conditioned by techniques of positive and negative reinforcement. The undesirable behaviors should be weakened while at the same time the desirable behaviors which are incompatible be strengthened.

Initially, the teacher should count the types of disrupting behavior (throwing down books, getting out of seat, making loud noise, walking about room) and plan to attack each behavior separately.

The teacher should ignore the aversive behavior so as not to give the child attention which acts as a positive reinforcement. The teacher might also take count as to the number of times she reinforces the child for being quiet or not misbehaving. The teacher should seek out those exercises in which the child is able to function quietly, whether it be playing a game, drawing, painting, listening to stories, etc. By paying attention to the child during these exercises the teacher is reinforcing behavior that competes with noisy, overactive, disrupting behavior.

In addition to the above behavior modification approach, the teacher might also try the following:

- 1. Avoidance of successive pressure
- 2. Granting short breaks
- 3. Allow additional time to be spent in physical education classes, etc.

- 4. Minimize demands for long periods of sitting still
- 5. Arrange for a shorter class day and gradually increase the time spent in class
- 6. The teacher might suggest that the parents bring the child to their family physician for an examination. As stated above when hyperactive behavior is such that the child completely disrupts the class, then generally the etiology is due to maturational lags, minimal cerebral dysfunction and/or emotional or behavioral reasons. Very often such children respond quite positively to medication.

THE AGGRESSIVE CHILD

(Aggression) develops because the child discovers that he can secure compliance with his wishes, i.e., rewards from the social environment by hurting. (Also, his physical attack on physical obstacles would get them out of his way.) As his knowledge of others' motivations increases, he becomes more and more skilled at utilizing this method of control. The devices he learns are a function of what the parents and others respond to, and the extent or degree to which he develops such a motive is a function of their rewarding responsiveness when he behaves injuriously — i.e., aggressively.²

The aggressive child might manifest such aversive behaviors as biting, kicking, pushing, fighting, bullying and an overall inability to get along in a cooperative manner with his classmates. If such behavior occurs frequently, the teacher is allowing a situation to exist



² Kessler, Jane W., *Psychopathology of Childhood*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey

in which the aggressive behavior is being reinforced by the child always getting his own way.

Such behavior which involves the safety of other children in the class cannot be ignored. Consequently, the time-out procedure as previously mentioned as a technique appears to be an effective approach as it does not reinforce the child's hurting behavior. Every time the child bites, kicks, threatens, or pushes another child he should receive time-out from class activities. The classroom, lavatory, or petitioned corner of the classroom can serve as a time-out area. It is important that the time-out area does not include toys or activities which the child enjoys as this will fail to weaken these fighting behaviors. From 5 to 10 minutes appears to be enough for time-out. Time-out is looked upon by the child as a form of punishment. Consequently, it is important that the teacher combine this punishment with a positive reinforcer whenever the child behaves himself.

Perhaps, the teacher, through the sociometric technique, might ascertain with whom the child is better able to get along and, consequently, the youngster will be offered a greater opportunity to involve himself in cooperative playing activity. Such activity will compete with his fighting behavior and should be reinforced positively by the teacher.

Very often the teacher welcomes the break from the time-out procedure and when the child is returned to group play, cooperative activity on the part of the young-ster is taken for granted.

Close proximity supervision and periodic interests in the child's activities also serve as positive reinforcers.

The aggressive child might be given more responsibility thus requiring the youngster to more or less practice behavior rehearsal which will make it clear to the child that aggression is undesirable and unacceptable



and that appropriate behavior will be positively reinforced by peers and teacher alike.

The aggressive child might also be placed in a group with larger children who through imitation and peer group pressure will modify the aggressive behavior. Play activities such as pounding, cutting, exercise games, etc., are also helpful.

If the aggressive child is a male the teacher might surround him by female students which may help reduce such behavior. In addition, the teacher might ask her most mature students to make friends with the boy or girl who fights as such children are often quite lonely. Additional time to sit with his friends in class might be earned as his self control improves.

THE NEGATIVISTIC CHILD

The negativistic child usually manifests such behavior in order to control the teacher's attention for a length of time. Negative behavior might be found in the child's refusal to complete assigned tasks, refusal to turn in homework assignments, refusal to participate in class activities, refusal to obey rules, dawdling, etc. The teacher should count the child's undesirable behaviors and also be alert to her own reinforcing of such behavior by only paying attention to the child when he refused to cooperate.

Negative behavior can be weakened by ignoring it, however, competing cooperative behaviors should be positively reinforced. The child should be exposed to situations in which he will usually cooperate and upon the teacher's request such behavior must be reinforced.

Again the sociometric technique is an excellent one in that the negativistic child is generally best treated in a group.

Nagging and coaxing by the teacher should be eliminated and overprotective attention discouraged.

THE DEPENDENT CHILD

dependent, immature child generally prefers adults to peers. Positive reinforcement from others is usually obtained by manifesting an overall helpless attitude. As a result, the teacher who rushes to the child's aid consistently reinforces this dependency. In observing the child the teacher might find that she is not the only one reinforcing this behavior. Often other classmates might also be responsible for maintaining this behavior and, therefore, the teacher should be aware of the circumstances in which it is reinforced. Dependent behavior must be ignored, however, the teacher must consistently reinforce independent behavior. Initially, the teacher will find it necessary to positively reinforce the child's slightest attempts at independent behavior, whether it be hanging up his coat, putting away his crayons, or being a class messenger. Group class activities should be encouraged as this type of child generally feels peer relationships do not offer positive reinforcement of any kind.

The teacher might require the dependent child to assist another youngster in some particular way, and by giving the child jobs which require self confidence.

Seating arrangements for the dependent child are quite important. A child who prefers to work alone might be placed amidst pupils who work well together.

THE WITHDRAWN CHILD

The withdrawn child generally finds little satisfaction in being with others. Such a child can usually entertain himself for long periods of time and in most instances, will find whatever he is doing more interesting than being with people. Usually, people do not respond to someone who has little to say or who is completely unresponsive.

The teacher might initially involve such a child in a

project or class exercise with another child who is not aggressive but out-going. The sociometric technique might be useful in determining which youngster to select.

The teacher must also be an excellent observer and listener. Most withdrawn children will make efforts to approach others and will attempt to speak to their peers and teachers as well. Such behavior must be positively reinforced by seeing that the child is listened to. The teacher must also be alert enough to see that the youngster is not interrupted.

Occasions can be set aside for individual attention whereby the teacher and classmates will be seen as positive reinforcers.

Touch games which require the recreating of socially constructive behavior may also prove effective. Physical contact with others are provided by such games. The teacher might have the children play blind man's bluff, pass small objects from spoons held in each child's mouth, etc.

Cheating games such as "Redlight" and "I Doubt It" are also excellent classroom games as the withdrawn child feels he is fooling his opponent and getting away with it.

Assertive training may also be quite beneficial for such children. For example in working with these children the teacher might have them open their mouths wide, stick out their tongues, yell, make exaggerated faces, gestures, mimic and read aloud.

Mirror work is often quite effective in addition to play acting all kinds of emotions, and acting out tense situations.

EXCESSIVE TALKING

The teacher should ignore the youngster when he is talking and pay attention to the child only when he is



quiet. A time out procedure might be utilized if the above approach is implemented and does not prove effective.

TATTLING BEHAVIOR

The most effective technique for coping with tattling behavior is simply for the teacher to turn her back on such a child and completely ignore him.

SCHOOL PHOBIA

The teacher might counsel the parents to leave the youngster with a baby sitter in order to encourage independent behavior. The parent might also desensitize the child to the school situation by walking the child by the school, watching the children play, walking through the classrooms after school hours, etc.

The teacher might also request that the child be brought to school by another parent. The most effective approach seems to be simply to bring the child to the classroom and require him to stay regardless of his temper tantrums. Quite often such behavior subsides and the child readily adjusts to the situation. This approach will not work if the child's mother is permitted to remain in the vicinity of the classroom in view of the youngster.

SPECIALIZED TECHNIQUES

The Technique of Vicarious Reinforcement

Very often a teacher will attend much more readily to a child's behavior when it is disrupting or disturbing than when the child is behaving or acting as he should be.

As stated previously, to simply ignore deviant behavior actually increases such behavior. However, the combination of ignoring deviant behavior and reinforcing an incompatible behavior is extremely important, An especially effective technique is the praising of a child who is showing appropriate behavior, when another child is misbehaving. Such action keeps the teacher from attending to the deviant act and at the same time provides vicarious reinforcement for compatible behavior.

Vicarious Reinforcement: Vicarious reinforcement is defined as a strengthening of behavior which occurs as a function of observing another being reinforced for that behavior. The effect of vicarious reinforcement is weak or short lived and is relative to direct reinforcement.

Example: Jim consistently speaks out without raising his hand as requested by his teacher. John, however, always raises his hand and as such, practices appropriate behavior whenever he wishes to speak. If John is praised by his teacher whenever he raises his hand (while Jim is misbehaving) such action serves as a discriminative stimulus for Jim to behave in a similar way. Chances are if John is praised for such behavior, Jim will also practice this behavior. However, unless some direct reinforcing consequent follows Jim's improved behavior (raising his hand) it will not be maintained.

NEGATIVE PRACTICE

Negative practice differs from negative reinforcement in that when we talk about reinforcement we essen-



tially mean that the response is strengthened and there is a high probability that the behavior will occur again. For example, if a teacher consistently reprimands a youngster for talking out loud in class chances are the behavior will continue to reoccur as the reprimands of the teacher still draw attention to the behavior, thereby reinforcing it.

With regards to negative practice, whenever a teacher forbids a child to act in a particular way she makes the behavior more desirable to the youngster. However, when a teacher demands that a child practice a particular behavior it suddenly becomes undesirable to the child.

The procedure for negative practice is to have the pupil repeat a behavior over and over. As a result, the individual will become fatigued and eventually the response will cease to be satisfying to the person, and he will become tired of such behavior. Consequently, when the behavior is no longer pleasure producing or satisfying the student will drop it from his repertoire of preferred behaviors.

For example, this author worked with a child, age 9, who consistently used a four letter word when referring to his teacher. The pupil was taken to a separate room and allowed to yell this word out until he became fatigued and then the child was required to write the word until his hand became tired. A second session of negative practice was not necessary, as the youngster no longer used the profane language in his teacher's presence.

Evidence seems to suggest that negative practice is an effective technique with children who present learning problems.* In addition, the author has found it effective with particular aggressive behaviors, modifying

*For example the teacher might order the bad speller to spell words wrong or the child who uses bad grammer to write poorly. Quite often when a child realizes he can turn the bad habit on he will in turn learn how to turn it off.



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profane language, etc. However, caution must be emphasized in applying such a technique to neurotic symptoms such as nail biting, lip chewing, ear pulling, etc., as these behaviors warrant a referral to the school psychologist and as such should not be tampered with by the classroom teacher without proper guidance.

SELF MONITORING BEHAVIOR

One of the most effective techniques presently being used in behavior modification is the technique of counting behavior. Such a technique emphasizes self control by which the child sets up conditions in his environment to bring about specific behaviors in himself.

Self monitoring is the simple application of counting behavior. This technique provides immediate feedback and as such the child becomes aware of the effect and consequences of his behavior.

Simply, this technique consists of the child keeping a record of the frequency in which he engages in the behavior to be controlled. Immediate feedback is provided and the child becomes aware of his behavior which enables him to bring it under his control.

The effectiveness of self monitoring may be increased when the procedure is subjected to environmental consequences, such as discussion between classmates, etc.* By making the self monitoring technique a public situation, the pupil's behavior becomes subject to social approval and reinforcement. This is not the same as "mocking" a child, an approach which the author feels is not effective with children or adults.

The above technique is an effective one for acting out, hyperactive youngsters, however, it has its draw-

*For example if particular students are considered to be teasers, name callers, etc., simply have the children ignore the teasing behavior and write down the name of the student who calls him or her a name. The writing down of the name is incompatible to fighting and also gives the child an opportunity to gain self control. In addition the teacher will soon find out which pupils are the guilty ones.



backs as it requires the child to cooperate and participate in carrying out the procedures without direct supervision.

The author has found that a combination technique of self monitoring behavior and behavioristic psychodrama is quite effective. For example, this author conducted a total of 20 one-hour counseling sessions with four 5th grade youngsters who manifested overall childish behavior, such as getting out of their seats at inappropriate times, talking out of turn, not raising their hand, standing on the desk, throwing erasers, banging head on blackboard, not completing class assignments, etc. Behavior was modified and improved during counseling sessions, however, there was no carry over to the classroom.

Prior to implementing the above techniques, each boy maintained an average base line of 15 disruptions per class day or a total of 60 class disruptions (average) a day for the entire group.

Most teachers attend to children much more quickly when they are naughty, acting childish, noisy, than when they are nice. Consequently, the teacher was requested to ignore the boys negative behaviors and reinforce only the positive behaviors.

The self-monitoring technique has its drawbacks as it requires the child to cooperate and participate in carrying out the procedures without direct supervision. The above procedure was presented in the public of the class and as such the four boys had to cooperate by making check marks for the occurrence of each negative behavior. All students in the class, as with the teacher, were requested not to react to the negative behaviors of the four boys and to maintain mental count of each time one of the four misbehaved. Each child included in the study was instructed to draw up a chart with each day of the week represented. Instead of attacking one particular behavior, the author attempted to modify all



negative behaviors of each child by having the youngster place a check mark in the appropriate box for each negative behavior he displayed. The behavior chart was kept on the upper right corner of the youngsters desk.

Behavioristic psychodrama was implemented by requiring each of the four boys to act out the childish behaviors they had manifested that week. (half hour sessions) At the completion of each of these half hour sessions the class was requested to discuss these behaviors and through role playing techniques, etc., act out alternate more positive behaviors that each of the four children might practice during the week or in between sessions. At the end of each week, I returned to the class and through psychodramatic techniques had the four children again act out childish behaviors in general and those particular behaviors each boy himself manifested during the prior week.

Before the end of each session, the four boys were requested to act out positive alternatives to any negative behavior they may have manifested between sessions. By the third week, psychodramatic techniques were utilized involving play acting of only positive behaviors of each of the four children by themselves and by their classmates. In addition, self-monitoring behavior involved only the counting of positive ways of behaving during the class day. A total of 5½ hours sessions brought about a drastic change in each child's behavior.

Through the implementation of behavioristic psychodrama, these four children were able to play the role of themselves in the present; themselves at another time and in essence explore their own behavior while members of their class not only observed but participated as well. Each child in the study was afforded the opportunity to develop ego strength and to release tensions by practicing roles and interpersonal relationships with their classmates.

This combination of techniques proved quite effec-



tive and in fact, drastically reduced not one negative behavior in each child but reduced the occurrence of several childish behaviors and extinguished several others. The children realized that their classmates could be positive reinforcers without having to resort to clowning, profanity, and facial or gestural cues. The class, in general, functioned much more effectively as the other children also benefited from the improved behaviors by vicariously imitating such behavior.

The teacher in turn was much more relaxed and as such facilitated a more congenial class atmosphere by not becoming emotionally upset as she ignored the negative behaviors and reinforced only the positive behavior.

The overall approach of combining both techniques (self monitoring and behavioristic psychodrama) in the presence of peers, the author has termed *Behavioristic Reviewing*.

BEHAVIORISTIC PSYCHODRAMA

Behavioristic Psychodrama is a technique in which the teacher involves the child in play acting a prescribed behavior which is considered inappropriate. This technique is quite effective for modifying such aggressive behaviors as clowning, profanity, facial or gestural cues.

The teacher can affect a more rapid modification of behavior by having other class members re-enact particular incidents and/or behaviors a child may manifest. Individuals in the class might be called to the front of the room to re-enact John's or Bob's clowning behavior. Such behavior might be discussed by members of the class as peer group pressure will modify such behavior much more readily. Interpersonal incidents drawn from the behavioral problem child's class experiences should be sought, re-enacted by class members, and the consequences and implications of those specific conditions should be fully discussed. Such behavior should always



be emphasized by the teacher as being immature and babyish. Such play acting, whether by the child himself (who manifests such behavior) or by his classmates, not only teaches the child new more appropriate behavior, but also gives the child insight into his own needs and motives is well as the needs and motives of his classmates.

If the teacher employs the behavioristic psychodrama technique in attempting to modify the behaviors of a particular child and/or children, she must be certain not to attend only to the child's noisy, childish, immature behavior but must be constantly alert and ready to positively reinforce the same child's (children's) appropriate responses which are incompatible with inappropriate behavior.

A technique similar to behavioristic psychodrama is mimicry or acted feedback. Such a technique is described by George Von Hilsheimer in his book "How to Live with Your Special Child." The method is simply that when a child displays inappropriate behavior the teacher just stops everything and does exactly what the child is doing. Consequently, the youngster is given immediate feedback as to the childishness and immaturity of his behavior. The teacher might simply say "Class, John is acting like a baby again, he wants our attention so lets all stop our work and turn around and look at John." "John is a big baby and he wants to get our attention, etc."

As mentioned previously, the author has found that behavioristic reviewing, (a combination of self-monitoring behavior and behavioristic psychodrama) when exposed to peer pressure, is one of the most effective approaches to modifying problem behaviors in children.

ADJUSTMENT INVENTORY

The adjustment inventory is a technique devised by



the author as a method of maintaining control over a pupil's behavior both in school and at home. By utilizing such a technique the parents as well as the teacher both have feedback in regards to a youngster's overall adjustment. The teacher can modify this technique to specific behavior or behaviors of an individual child. Very simply, points, stars, tokens, etc., are given each time the youngster manifests a positive behavior. These points are totaled at the end of the school day. The parents in turn reinforce positive behavior or behaviors at home and, as in the school situation, the youngster receives a tally of points at bedtime. Consequently, the amount of points, stars, etc. are again totaled at the end of the week and the youngster can exchange these points for rewards. This technique is effective in that the parents become involved as behavioral engineers and, as a result, the modification of the child's behavior or behaviors becomes a personal challenge to them.

SUN.													
SAT.			_										
FRI.													
LHURS												-	
WED.													
MON. TUES. WED. THURS. FRI. SAT. SUN.													
MON.													
DAY	Home	1. Completes chores	2. Respects parent's authority	3. Gets along with sibs (friends)	4. Enjoys helping others	5. Follows orders willingly	School	. Completes assignments	2. Respects teacher's authority	3. Gets along with classmates	4. Enjoys helping others	5. Follows orders willingly	



THE SOCIOMETRIC TECHNIQUE

The sociometric technique is one way of studying interpersonal relationships. The classroom situation presents the child with many opportunities for making judgments about his peers. The group structure which is revealed by youngsters' sociometric responses may provide the teacher with an orientation in which to view his class.

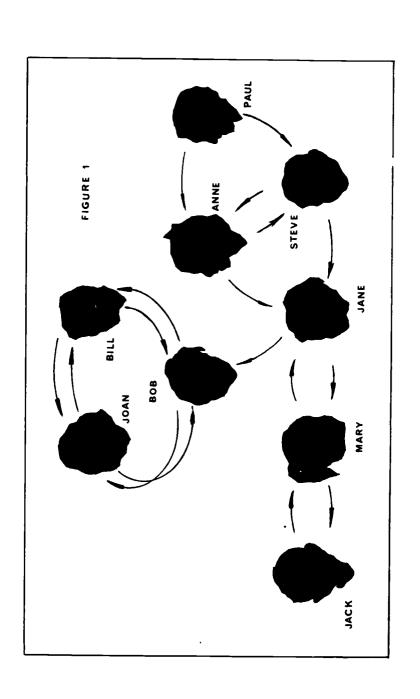
The more the teacher knows about the students in his class the more effectively he can deal with the group. In addition, the more the teacher knows of the group, the better he can understand the individual child.

In every classroom and in every group there exist psychological ties between members. Dr. Louis Moreno, the first to represent these bonds, used the term "tele." According to Dr. Moreno, any group would be much more effective if it was restructured according to the "tele" expressed in such person-to-person relationships. Sociometric techniques as devised by Dr. Moreno record the attraction or repulsion which persons feel for one another.

The classroom teacher might ask her pupils to indictate choices of other peers by asking the question "Whom would you like to sit next too?", "Which pupils would you like to work with?", or "Whom would you like to play with?", or "Whom would you invite to your birthday party?" The teacher might request first and second choices. Each individual is represented by a circle. A choice for another is represented by an arrow from the chooser to the chosen. Mutual choices are connected by a double arrow one in each direction.

As seen in Figure 1, Jack and Mary form a mutual pair; so do Anne and Steve. Joan, Bill and Bob form a triad or clique. Jane and Bob are stars as they received three choices each from the eight other members of their







class. Even as a star, Jane might be disappointed; she makes only one choice, Bob, who does not choose her. Paul chooses Anne and Steve, however, he is an isolate as no one chooses him.

The above group can be expressed in a "Sociometric Matrix" with a list of persons in the group presented in rows (as persons choosing) and also in columns (as persons chosen). The above group can be put into the following matrix form (using an "X" to indicate the choices expressed by each).

The teacher might also request pupils to give their most pronounced rejections. However, the author feels this is a dangerous and detrimental technique especially where elementary school children are involved and verbalization of choices might be expressed. To ascertain the true aversions in a classroom setting, all the teacher has to do is observe the children playing during a physical education period and request the instructor to inform her of those youngsters who are selected last by their classmates to participate on different teams.

It is recommended that a sociogram not be utilized until after the class has been in school for several weeks. Initially, there is a considerable degree of stereotyping, however, as time progresses the choices tend to remain the same.

The sociometric technique can aid the teacher in identifying personality problems, leadership ability, and if regrouped according to the class "tele" can increase the class morale and each child's acceptance of one another.

TOKEN ECONOMY PROGRAMS

Reinforcement utilizing interim rewards such as pegs, chips, points and stars and other objects or symbols which are of value to a student can be utilized to create a workable incentive system when a lack of motivation for doing school work is prevalent. Such an approach is termed a Token Economy Program. In setting up such

	Steve	××
	Paul	
	Anne	××
Person Chosen	Jane	× × ×
	Bill	××
	Bob	×××
	Joan	××
	Mary	×
Person Choosing	Jack	×
		Jack Mary Joan Bob Bill Jane Anne Paul Steve

*The author (WF) recommends the L-J Sociometric Test for assessing a classroom's socio-emotional nature. (Published by Indiana University.)

a program it is important that the teacher, through the technique of pairing, demonstrate to the children that social events are rewarding through association with reinforcers. Interim reinforcers are always used in conjunction with social rewards such as praise, smiles, physical proximity, a hug, etc.

A reinforcer, as stated previously, is an event or item which follows a response and increases the prob-

ability of the response occurring again.

As a child grows he receives verbal reinforcement by being told he is a good boy for putting on his coat, for eating all his dinner, etc. If parents are consistent in praising a child for his appropriate behavior, the probability of his repeating these behaviors should increase. Later on the child might be given a few pennies for completing his homework assignment or for doing a chore about the house. Consequently, a contingency, completion of homework or chore has been placed upon his receiving the token. No token is received if the child does not complete the expected homework assignment and/or chore. When the child completes tasks expected of him, he is reinforced with the tokens which eventually are used to purchase those things he likes or which are reinforcing to him.

A Token Economy Program is generally useful when the teacher is dealing with a youngster or a class of youngsters in which verbal approval for appropriate be-

havior is not reinforcing.

Interim rewards should be dispensed immediately and individually as soon as a child carries out a direction, makes a correct response to an item, or when he behaves in a socially appropriate manner. Verbal approval such as "very good", "that's fine", should accompany the interim rewards (token, peg). In this way social approval is paired with the peg, token, etc.

Inappropriate responses are ignored totally until the child responds appropriately. The teacher must remem-



ber that attention, whether gained through appropriate or inappropriate behavior, can in itself be and very often is reinforcing.

An intermittent reinforcing schedule is recommended as soon as the child responds appropriately every time a response is expected of him. Once new behaviors are learned, they are more likely to last if the behavior is not reinforced every time. Reinforcing every time is important when the teacher is initially trying to shape a child's behavior, however, it is better to reinforce the behavior occasionally once it has come under the control of the reinforcer.

The teacher may use the tokens, pegs, chips, etc., to reinforce sitting quietly, walking in line, raising hand to ask a question, making correct responses, completing classroom assignment and for many other types of behavior.

For example, the teacher might want to motivate the entire class to successfully complete each classroom assignment. The teacher rewards each child with a "token" whenever he successfully completes an assignment. These tokens can then be exchanged for rewards at the end of the day or week. The teacher would assign a different value to different rewards. For example, if 4 or 5 children earned 20 tokens, then the most valuable reward would be worth 20 tokens or higher. Rewards can be material objects, crayons, small trinkets, etc., or free play time, game time, use of finger paints, etc.

Tokens are never taken away. If a child does not successfully complete his work, he simply is not given a token. Therefore, the absence of a reward is the only punishment.

The teacher may utilize a token economy program to modify all types of behavior. It is the ultimate goal of such a program to develop positive attitudes toward learning which become independent of any direct extrinsic rewards such as tokens, pat on back, etc.

PROGRAMMED INSTRUCTION

State law requires a child to enter school at a particular chronological age. However, not all children are ready to cope with the learning situation at such a time due to organic, environmental or intropsychic conditions.

If we demand that all children must go to school, then we must provide appropriate education for every child and accept the concept of individual differences.

The author has found that programmed instruction is an effective technique for not only teaching the basic academics but also for maintaining overall good classroom management. If a child is able to move along at his own pace, he does not become frustrated, in short, he does not become a behavior problem.

The author wishes to elaborate on both the positive and negative aspects of programmed instruction and the pitfalls to be aware of initially utilizing such method.

Since programmed instruction is an individualized method, each child is able to work at his own rate of speed. Consequently, for the most part, children are happy with their progress and are eager to learn.

With such a technique there seems to be little evidence of frustration because each child is able to function at his own level of ability.

Skills are presented to the entire class aiming the instruction to the middle group. This method is very structured and repetitious and each skill is reinforced many times. The child consistently obtains the correct response and, consequently, is positively reinforced immediately. As such, motivation continues at a high level. With regards to reading the children obtain a good foundation in phonics and word structure. This is quite important as the sight reading approach appears adequate for the primary grade levels, however, when the child enters his third year and vocabulary becomes quite abundant, failure begins to appear. The foundation in



phonics and word structure also facilitates the mastering of spelling skills. This emphasis upon small sequential steps, in using phonics and word structure, aids the youngster to become an independent reader. Since the child is never reading beyond his ability, reading is a pleasurable experience. Comprehension is good because for every stimulus the child must make a response.

With most programs the stories are interesting and within the realm of the child's experience. Language development is excellent as the learning of word usage and word meanings encourages the child to do creative writing.

In addition, it is not necessary for the teacher to take time away from one youngster or a group of youngsters while she is helping others. With programmed instruction the child is constantly busy with constructive tasks and not fill in or blackboard work. Such programs ordinarily make use of the sentence completion method which is quite effective as such an approach does not require the child to think in completed and extended sentences or statements.

With regards to negative aspects of programmed instruction (reading) the "middle class" child might not identify with the material as the mother and father in most instances is missing.

Initially, the child is quite prone to cheating as all he has to do is lower the marker on the page on which he is working to ascertain the correct response.

However, if the teacher administers the individual tests at the completion of each work unit and the child fails, simply returning the youngster to the beginning of the lesson once or twice is enough to eliminate this behavior.

In addition, competing behavior is quite high. This may cause some difficulty for the dependent type of



youngster. However, the teacher should place emphasis upon individual progress and not group performance.

It is quite important that the teacher devise a system of her own such as utilizing the children to help correct each others papers, etc. Programmed instruction is not easy and requires much more of a teacher than the conventional sight reading phonetic approach. The teacher, in utilizing such a program for the first time, must familiarize herself with the teaching procedures. Teacher manuals are very explicit and it is of the utmost importance that exercises are followed according to the letter. However, it is always the teacher's responsibility to improvise and extend further the youngsters skills and create interests. Good organization is quite important as such programs require the giving of tests, check tests, read with each child, in short, time must be used carefully. The author has found that a sheet of paper headed "I am ready" on which the child will write his name and what he needs to do so that there will be no confusion nor wasted time. Looking at the sheet shows the teacher which child needs help and what needs to be done.

A record should be kept on a class chart showing the test results in each book, and the additional readings which have to be read by each child. Most programs use a slider technique which covers the answer until the youngster fills in the blank space. Teachers have found the slider useful for keeping a personal record for each child. The test results are recorded on the slider and a perfect test earns a star (positive reinforcement). The children proudly show off their sliders and strive to do well so they may get another star. The stars in turn may counted for free time, etc.

The teacher should also find additional ways to motivate the children. Teachers using this method of instruction have found the following techniques effective. Sound picture charts, class booklets with pictures and



short original stories with such titles as "Happiness Is", "Christmas Is", "School Is", etc. Using important current events, show and tell, insects and animals creates much interest and leads to good oral and written language experiences. Spelling bees, puzzles, etc., also have proven to be quite effective and generate a high degree of interest.

The success of such a program as with any program rests primarily on the teacher. Programmed instruction is beneficial in that homework is not required per se, the child does not have to think in completed extended sentences; it is a combination of a visual and auditory approach which facilitates the holding of information, and overall appears as the most appropriate method (advantages cited above) for the culturally deprived or behavior problem child, as well as with the middle class youngster.

Programmed instruction is not easy, the teacher must be an educator willing to roll up his sleeves, then, and only then, can programmed instruction be effective in teaching a youngster how to read. In addition, programmed instruction can also be effective as an overall technique for not only maintaining adequate classroom management but possibly in preventing or bringing about a modification of persistent failure which is so evident in the behavior problem and culturally disadvantaged youngster.

BEHAVIORAL ENGINEERING WITH KINDERGARTEN CHILDREN*

Kindergarten teachers are aware of the fact that the early years of childhood constitute the optimum time for beginning educational intervention; however, it is difficult to know just what patterns one should encourage or how to go about developing them.

The primary focus of the kindergarten grade is to

place emphasis on School Reudiness.

The kindergarten program should provide experiences which are characterized by consistency, order, purpose and structured treedom. It will be slow starting and should be methodically done. The pace increases as dexterity and understanding increases.

An approach is described which appears quite effective in preparing the kindergarten youngster for the attention, concentration and independent behavior which is required of him upon entrance into the first grade.

Using an engineered classroom, the teacher is able to define quite readily appropriate task assignments for students while maintaining well defined limits which afford the child the opportunity to act independently and with a greater degree of self reliance.

CLASS DESIGN

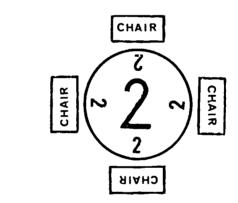
A. SMALL ROUND TABLES

Several small round tables occupy the center of the room. Four chairs are set at each table. Enameled in the center of each table is a large numeral. This is called a table numeral, used to identify a particular table. In



^{*}Reprinted from Instructor, August/September 1970, Copyright The Instructor Publications, Inc., Dansville, New York 14437 from an article written by the author (WF) and Florence Weston

addition, so that each child may look at the numeral correctly, small (enameled also) numerals are added.



Consequently, the child can see how his number looks. The number is permanently there for the child to copy each time he wants to put his table number on his work.

This is important because he needs his table number as part of his identification.

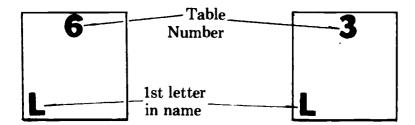
B. TEACHING NAME USING NAME CARDS

In kindergarten we teach names for identification purposes only. The name card appears to be an effective approach.

In September, the children are told it is not necessary for them to write entire name to identify their work. All they need, in the beginning, is the first letter of their name. The first letter in the name combined with table numeral forms the identifying mark for them to use in recognizing their work.

Ex. Laura's paper looks like this in Sept.

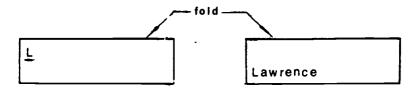
Lawrence's paper looks like this in Sept.



This is their "Hallmark." Now each one can identify his own paper, drawing, etc. Use terminology—first letter—so that children are aware that this is not their entire name, just the beginning. More letters are to come to make up entire name. They do see entire name, however, on crayon boxes and back of name cards.

Introduce Name Card — whereby September

Front looks like this Back looks like this

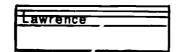


October — Add 1 more letter

Discuss size — shape

November — Add 1 more letter				
Law	3rd letter			
December — Add 1 more letter				
Lawr	4th letter Add bottom line			
January — Add 1 more Add 1 more line — top	letter			

February — Add 1 or 2 more letters depending on children Add middle line



Lawre

If class is ready you may continue adding letters and do last name.

Use name cards whenever name is put on work.

First 3 letters on name card should be in different colors to aid child in left to right orientation.

Once concept — left to right is learned — child is able to follow letter by letter to the end of name.

He is ready to attack other words he will encounter. He will automatically go left to right.

STORING NAME CARDS

Now child must have a place to store name cards. A place where he can get them and return them himself.

The name card storage pockets are used for this

ı	2	3	4	5	6

purpose. Each pocket has a numeral.

The numeral on the pocket matches the numeral on his table. Children store name cards in pocket with numeral that matches his table numeral.

Ex. Laura John Mary and Ronald sit at table 6

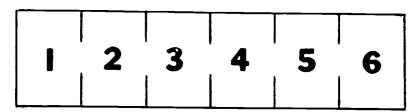
They will get name cards from pocket 6 and when finished with name card return card to pocket 6.

The name card pockets are another place where numerals 1-6 may be found. Children using these numerals know that 4 comes between 3 and 5.

C. TAKE HOME NUMERAL TABLE

(so called because work to be taken home is put there)

Children must have a permanent place for finished work. To accomplish this use a rectangular table 28" x 60". This size table is needed so that numerals are properly spaced. Counting numerals from 1 to 6 are painted on table top. The numerals match numerals on small round tables. (See diagram.)



When child completes his work, he will place it on



the number which matches his table top. For example, all children sitting at table 2 will place their paper work on the number 2 and consequently will know where to locate their completed work when it is time to go home.

One child from each table can be responsible to give out work to the other children at his table upon completion of the school day. The responsibility for the task can change each day, thus giving the children the opportunity to learn each other's names.

At the beginning of the term, the tables are numbered 1 to 6 or higher as needed. To expose children further with regards to counting numerals, table No. 1 is changed to No. 7 in January, table No. 2 is changed to No. 8 in February, table No. 3 is changed to No. 9 in March. Consequently, by the end of March the entire class will be exposed to all numerals 1 to 10 during the remainder of the school year.

D. MATERIAL STORING BOOKCASE

Any bookcase with 5 shelves will suffice as a material storing bookcase. Crayons are in individual boxes and each child has his own crayon box with his entire name written on cover. Pencils, scissors are kept in a container in sets of four. Each container has a number to match the table number. There is one container for each table.

E. SEATING

In seating children at their respective tables it is important not to place two children at the same table whose names begin with the same letter.

Ex. Lawrence and Laura should not be placed at same since both names begin with L.

To avoid this make out seating chart first, then assign children to tables.



SEATING CHART

1	2	3
Michael	Nicholas	Thomas
Kathleen	Lisa	Nancy
Curtis	George B.	Edgar
4	5	6
George G.	Keith	John
Alan	Jeanne	Maria
Debra	Stacy	Lee Ann
Susan	Vincent	Donna

F. CLOAKROOM

The cloakroom has all hooks numbered with the identical numerals as on the child's table. Each child has a numbered hook for his clothing. Each numeral has 4 hooks.

See Diagram for Cloakroom (Floor Plan)

In applying the engineered classroom design the child begins to practice independent behavior in a short period of time. It aids the youngster in taking care of his own work while learning different numerals, by applying the terms 1st, 2nd and 3rd, to recognize concepts of shape and size, to identify letters by name, to learn beginning sounds, to learn left to right orientation. In short, such techniques place little pressure on the individual and prepares him in the overall area of reading readiness.

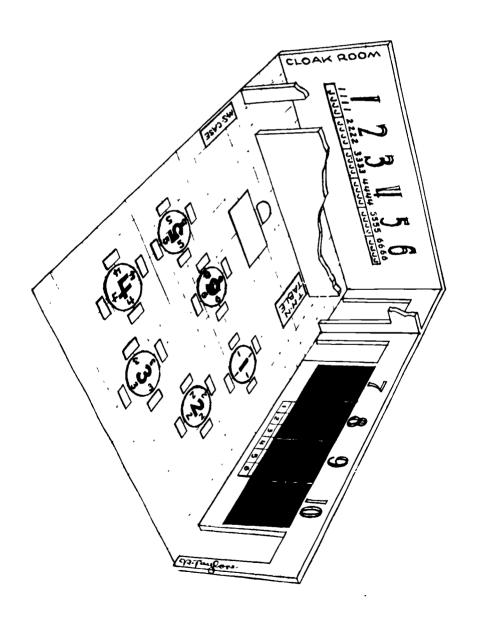
If the kindergarten youngster is adequately prepared prior to entering the first grade, he will not experience



frustration or develop a negative attitude toward the learning situation.

This is extremely important as such anti-academic attitudes are consequently carried over from grade to grade which often results in emotional difficulties and eventual referral to psychological services.







GLOSSARY

The following is taken from Child Development 1: A Systematic and Empirical Theory, 1961, by Sidney W. Bijou and Donald M. Baer, Appleton-Century-Crofts, New York, New York.

OPERANT RESPONSES

Those responses which are controlled (strengthened or weakened) basically by the stimuli that follow them.

REINFURCEMENT

Positive—May produce certain stimulus events and as a result the operants increase in frequency. Ex. Baby - Milk

Toddler - Candy

Young School Child - Approval of parents or teachers

Young Adult - Weekly pay check

Negative—May remove, avoid or terminate certain other stimulus events and as a result the operants increase in frequency.

Ex. Baby - Cold air
Toddler - Spanking
Young School Child - Frown from mother
Teenager - Ridicule of peers
Young Adult - Traffic ticket

The only test to decide whether a stimulus is reinforcing is to obtain a baseline and observe if specific behavior *increases*.

OPERANTS HAVE FOUR KINDS OF CONSEQUENCES

Strengtheners

1. Produce positive reinforcement - positive by definition



2. Remove or avoid negative reinforcement -negative reinforcement by definition

Weakeners

3. Produce negative reinforcement

4. Remove or avoid positive reinforcement

OPERANT LEVEL

The degree of strength characterizing a response before it is affected by reinforcement.

NEUTRAL STIMULI

One which fails to strengthen a response of which it is a consequence.

EXTINCTION

Use of a neutral stimuli that will weaken a response until it falls to its operant level.

THREE EXTINCTION PROCEDURES

- 1. Response produces a negative reinforcement (Punishment)
- 2. Response loses a positive reinforcement (Punishment)
- 3. Response produces a neutral stimulus (Extinction)

RECOVERY

A response weakened thru punishments starts producing only neutral stimuli, it will *rise* in strength to its pre-punishment or operant level.

* No new response is created. It must first occur before it can be strengthened or weakened.

TEMPORAL GRADIENT OF REINFORCEMENT

Promptness of reinforcement Any response which happens to intervene between the desired response and the reinforcement will profit more from the reinforcement than will the desired response. A response should ideally be reinforced within a second.

SCHEDULES OF REINFORCEMENT

Continuous Reinforcement

Response is reinforced every time it occurs.

- 1. Produces a regular pattern of responding
- 2. Extinguishes most easily
- 3. Often used initially to strengthen a response

INTERMITTENT REINFORCEMENT

Make reinforcement contingent upon the amount of response output. That is the response is reinforced every Nth time it occurs.

- A. Fixed Ratio Schedule

 Ex. 10¢ for each 20 units produced (piece work).
- B. Variable Ratio Schedule
 One-armed bandit does not reinforce on a predictable response. It may pay 1 out of 100 on the average, but may pay 2 out of 2 and not again for 200.

If reinforcement stops the variable ratio, reinforcement response is harder to extinguish than the fixed ratio.

Ex. Fixed ratio is harder to extinguish than continuous reinforcement.



FIXED INTERVAL SCHEDULE

A schedule constructed on time passing rather than response output. Response will be reinforced the first time it occurs after N minutes since the last time it was reinforced. The reinforcement is not given free; it is given as a consequence of a response—the 1st response occurring after a given time has passed since the last reinforcement.

Ex. A paycheck every Friday afternoon.

VARIABLE INTERVAL SCHEDULE

Reward is given around an average time, but is not given at a fixed time (N minutes) after he last desired response. Variable Interval Schedule response produce extremely durable responses that will continue to be emitted at a slow even rate long after reinforcement has ceased.

Ex. A whining child does so long enough until finally the mother gives in. On rare occasions, in moments of weakness, she may give in. This is a most potent reinforcing schedule.

DEPRIVATION

When an organism has not had such a reinforcer for a long period.

SATIATION

When the organism very recently has consumed a large amount of a reinforcer.

Deprivation increases the effectiveness of a reinforcer.

Satiation decreases the effectiveness of a reinforcer. Different reinforcers will show different sensitivity to deprivation — satiation operations for different children.



CATEGORIES OF STIMULI

- Physical
 Man made and natural things
 Ex. Chair, car, tree
- Chemical
 Gases and solutions that act at a distance or on
 the surface of the skin
 Ex. Aroma of roast turkey, perfume, soap, urine
- 3. Organismic
 Biological structure and physiological functioning of the organism
 Ex. Cardiovascular, nervous system of the body
- Social
 Appearance, action and interaction of people (and animals)
 Ex. Mothers, siblings, teachers, etc., one's self



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